ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of	)	
	)	PR Docket No. 93-61
Amendment of Part 90 of the	)	
Commission's Rules to Adopt	)	
Regulations for Automatic Vehicle	)	
Monitoring Systems	)	
	)	

To: The Commission

OPPOSITION AND COMMENTS OF SOUTHWESTERN BELL MOBILE SYSTEMS, INC. IN RESPONSE TO PETITIONS FOR RECONSIDERATION

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SUMMARY

Instead of adopting rules to encourage investment in, and development of LMS, the rules promulgated by the Report and Order ("R&O") have raised new concerns for those entities who have already invested in the industry and for those who may wish to participate in LMS auctions. The number of petitions filed in response to the R&O support SBMS' demonstration in its Petition for Reconsideration that the rules adopted in the R&O will perpetuate uncertainty and intensify conflicts among users of the spectrum.

In this Opposition and Comments, SBMS addresses the various petitions filed with respect to the following issues: (i) the unworkability of sharing of the 2 MHz D band by multilateration and non-multilateration interests; (ii) the unworkability of sharing among multilateration licensees; (iii) adoption of an inefficient spectrum band plan; (iv) the unlawful elevation of Part 15 to co-equal status with LMS; (v) the need for greater clarity on permissible use and interconnection to the PSTN; (vi) the designation of Major Trading Areas ("MTAs") as the relevant geographic market for licensing purposes; (vii) uncertainty concerning the rights of grandfathered licensees and pending applicants; (viii) unduly restrictive emission mask requirements; (ix) non-multilateration licensing issues; and (x) forward link issues.

While SBMS addressed many of these issues in its Petition for Reconsideration, certain issues require a new focus in light of comments received. In particular, if the Commission persists in permitting the grandfathering of hundreds of unbuilt licenses nationwide, then basic fairness requires that it also grandfather multilateration applications pending as of February 3, 1995 where it can be shown that such applications should have been granted by that date under the Commission's normal processing schedule.

In addition, SBMS agrees with certain of the multilateration commenters that the 2 kilometer relocation limitation for modification applications is too restrictive. Instead, grandfathered licensees should be limited to the radius of operation specified in their granted applications.

It is crucial that the Commission underscore the limitations on permissible LMS communications -- i.e. that it is not a general messaging service -- and that it clarify its definition of "store and forward" interconnection. Otherwise, LMS will not be used as intended.

For these reasons and others specified in this Opposition and Comments of Southwestern Bell Mobile Systems, Inc. in Response to Petitions for Reconsideration, SBMS asks that the Commission reconsider its R&O.

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Southwestern Bell Mobile Systems, Inc. ("SBMS"), by its attorneys and pursuant to Section 1.429(f) of the Commission's Rules,[1/] hereby submits its Opposition and Comments in Response to Petitions for Reconsideration of the Report and Order ("R&O") in the above-referenced proceeding.[2/]

I. Introductory Statement

In its Petition for Reconsideration ("Petition") filed April 24, 1995, SBMS demonstrated that the rules adopted in the R&O primarily protect existing multilateration licensees who have hoarded spectrum rather than maximizing spectral efficiency and public interest benefits. SBMS demonstrated that many of the rules that the Commission adopted were without the benefit of the reasoned analysis required by the Administrative Procedure Act ("APA").[3/] Based upon the

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[1/] 47 C.F.R. §1.429(f).

[2/] PR Docket No. 93-61, FCC 95-41 (rel. Feb. 6, 1995).

[3/] SBMS Petition at 3. SBMS asked for reconsideration of the following issues: (i) the Commission's authorization of sharing of the 2 MHz D band by multilateration and non-multilateration interests; (ii) failing to adopt a spectrally efficient multilateration allocation plan based upon small building blocks; (iii) conditioning final multilateration licensed grants on post-grant testing that demonstrates non-interference to Part 15 devices; (iv) presuming, irrebuttably, that Part 15 devices are non-interfering; (v) defining "store and forward" interconnection ambiguously and failing to relate that definition to the ban on real-time voice interconnection; (vi) designing Major Trading Areas ("MTAs") as the relevant geographic market for licensing purposes; (vii) grandfathering unbuilt licenses; (viii) grandfathering pre-February 3, 1995 modification applications, but not applications for new facilities filed prior to that date; (ix)

number of petitions for reconsideration and clarification filed and the sharply divergent points of view which remain on key issues in this docket, it is clear that the rules adopted by the R&O will perpetuate uncertainty and intensify conflicts among users of the spectrum. In this Opposition and Comments, SBMS addresses the various petitions filed[4/] with respect to the following issues: (i) the unworkability of sharing of the 2 MHz D band by multilateration and non-multilateration interests; (ii) the unworkability of sharing among multilateration licensees; (iii) adoption of an inefficient spectrum band plan; (iv) the unlawful elevation of Part 15 to co-equal status with LMS; (v) the need for greater clarity on permissible use and interconnection to the PSTN; (vi) the designation of Major Trading Areas ("MTAs") as the relevant geographic market for licensing purposes; (vii) uncertainty concerning the rights of grandfathered licensees and pending applicants; (viii) unduly restrictive emission mask requirements; (ix) non-multilateration licensing issues; and (x) forward link issues.

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inadequately explaining permissible use; (x) unduly restrictive emission mask requirements; and (xi) failing to establish a procedure for resolution of interference between exclusive MTA and grandfathered multilateration licensees.

[4/] The filings discussed are: Amtech Corp. Petition for Partial Clarification and Reconsideration. ("Amtech"), Metricom, Inc. and Southern California Edison Co. Petition for Reconsideration and Clarification ("Metricom"), Pinpoint Comms. Petition for Reconsideration ("Pinpoint"), MobileVision, L.P. Petition for Reconsideration ("MobileVision"), Ad Hoc Gas Distribution Utilities Coalition Petition for Limited Reconsideration ("Gas Coalition"), Texas Instruments, Inc. and MFS Network Technologies, Inc. Petition for Clarification and Limited Reconsideration ("TI"), UTC Petition for Reconsideration ("UTC"), Hughes Transportation Management System Petition for Reconsideration ("Hughes"), CellNet Data Systems Petition for Reconsideration and Clarification ("CellNet"), Connectivity for Learning Coalition Petition for Reconsideration ("Learning"), Uniplex Corp. Petition for Reconsideration ("Uniplex"), AirTouch Teletrac Petition for Partial Reconsideration and Clarification ("AirTouch"), New Jersey Highway Authority, et. al., Petition for Reconsideration ("New Jersey"), Rand McNally & Co. Petition for Reconsideration ("Rand McNally"), Intelligent Transportation Society of American Petition for Partial Reconsideration ("ITS"), Safetran Systems Corp. Letter Comments ("Safetran"), the Part 15 Coalition Petition for Reconsideration ("Part 15 Coalition").

II. Sharing Of The 2 MHz D Band By Multilateration And Non-Multilateration Interests Is Unworkable

In its Petition, SBMS demonstrated that the Commission's adoption of sharing in the 2 MHz D Band (919.750-921.750 MHz) by multilateration and non-multilateration licensees contradicted the FCC's own findings and the reasoned decision making requirement of the APA.[5/] The FCC specifically proposed separate spectrum allocations for these two systems because "wide-band pulse-ranging systems have [difficulties] co-existing with narrow-band systems."[6/] The Commission unequivocally stated that it was technically, operationally and economically necessary to create separate spectrum allocations for multilateration and non-multilateration systems.[7/] It then allocated Band D on a shared basis relying on an unsupported claim of Amtech that 2 MHz of additional contiguous spectrum was required for its non-multilateration operations.

In its Petition, Amtech argues that the band plan should be further modified on reconsideration to allow non-multilateration systems to operate in 14 MHz of contiguous spectrum by permitting such systems to additionally operate in the 921.75-923.75 MHz band on a shared basis. It claims that its California and Kansas systems, while only requiring 12 MHz, could better operate in 14 MHz.[8/] Throughout this proceeding, Amtech was the only non-multilateration party that alleged that it needed more than 10 MHz of spectrum,[9/] and it is now the only non-multilateration party alleging a need for 14 MHz of spectrum. Even Amtech, however, admits

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[5/] SBMS Petition at 4.

[6/] Notice of Proposed Rulemaking in Docket 93-61, 8 FCC Rcd 2502, 2503 (1993) ("NPRM").

[7/] R&O at 27, 37.

[8/] Amtech at 19.

[9/] Amtech Comments (Aug. 12, 1995) at 2.

that this much spectrum is not actually necessary for it to operate.[10/] Contrary to Amtech's claim, sharing between multilateration and non-multilateration parties is not feasible, as SBMS demonstrated in its Petition,[11/] and the amount of shared spectrum should certainly not be increased. Authorizing the sharing of any spectrum between multilateration and non-multilateration interests, let alone more of such spectrum than allocated by the R&O for that purpose will only exacerbate the interference problems in the Commission's band plan.

Amtech's suggestion[12/] that SBMS and other commenters who have clearly stated their opposition to sharing might believe that sharing is feasible is disingenuous. SBMS has unambiguously opposed sharing between multilateration and non-multilateration systems,[13/] and any representation by Amtech or others suggesting that SBMS supports the feasibility of such sharing is simply false.

In addition to the sharing of Block D, Amtech wants grandfathered non-multilateration systems to be permitted to operate under the old rules indefinitely unless actual harmful interference occurs.[14/] When and if interference occurs, Amtech believes that the complaining party should bear the costs of eliminating the interference.[15/] SBMS believes that Amtech's proposal is unworkable. Non-multilateration entities operating in the spectrum designated for multilateration interests will ultimately cause harmful interference.[16/] To lend credence to

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[10/] Amtech at 19.

[11/] SBMS Petition at 4.

[12/] Amtech at 20, fn. 35.

[13/] See, e.g., SBMS Ex Parte Letter to William F. Caton (Aug. 16, 1994), Attachment at 3; SBMS Ex Parte Letter to William F. Caton (Aug. 9, 1994), Attachment at 4.

[14/] Amtech at 3-8.

[15/] Amtech at 7.

[16/] R&O at 27, 37.

Amtech's suggestion would only delay the inevitable relocation of non-multilateration systems and cause a disruption in service to the public. The Commission should revise its R&O to eliminate sharing of the D Band by multilateration and non-multilateration licensees.

III. Sharing Between Multilateration Licensees

Pinpoint[17] and Uniplex[18] advocate adoption of one band in which multilateration systems could operate on a shared basis. These suggestions should be rejected. Pinpoint suggests that the existence of both exclusive MTA and grandfathered multilateration licenses indicates that sharing is feasible.[19] It also finds support for its suggestion in Section 309(j)(6)(E) of the Communications Act, which requires the FCC to avoid mutual exclusivity,[20] and the objectives of Sections 309(j)(2) and (3), which require the dissemination of licenses among small businesses.[21] It claims that auctions will impede small businesses from developing LMS systems.[22] Uniplex contends that auctioning spectrum which is already occupied is "inappropriate," because such spectrum is devalued by the presence of other operators, particularly grandfathered AVM systems.[23] Accordingly, it argues that there is no impediment to multilateration sharing in one of the bands. Uniplex and Pinpoint both point to their time-sharing system in support of such a shared band.[24] This proposal has been opposed by MobileVision,

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[17] Pinpoint at 7-10.

[18] Uniplex at 8-9.

[19] Pinpoint at 9.

[20] Pinpoint at 10.

[21] Pinpoint at 11-12.

[22] Id.

[23] Uniplex at 8-9.

[24] Pinpoint at 10, Uniplex at 9.

Location Services and SBMS, and each has argued against such multilateration sharing throughout this proceeding.[25/] The FCC agreed with SBMS when it stated that "sharing of spectrum among unlimited numbers of multilateration licensees is not technically feasible" and therefore did not permit such sharing.[26/] The suggestions of Pinpoint and Uniplex must be rejected.

In its Petition, SBMS demonstrated that the FCC failed to establish a procedure for resolution of interference between exclusive MTA and grandfathered multilateration licensees.[27/] The FCC states that "exclusive MTA multilateration LMS licensees and co-channel grandfathered multilateration LMS licensees must not interfere with one another." R&O at 49. Yet, the nature of the LMS licensing scheme makes it clear that interference will probably occur.[28/] In certain locations, two or three licensees may be licensed for the same spectrum. This is certain to result in interference. The negotiation that will be necessary to eliminate the interference, even if ultimately successful, could result in the MTA licensee having a license worth much less than it paid for, and during this period, the public will be deprived of service. The alternative is, of course, that this uncertainty will seriously devalue the LMS licenses in the first place.

IV. Adoption of An Inefficient Multilateration Band Plan

In its Petition, SBMS demonstrated that its proposed allocation plan, based on small building blocks would "deter warehousing, promote competition, reward service providers

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[25/] See, e.g., MobileVision Letter to William F. Caton (Aug. 12, 1994) Attachment at 2; SBMS Letter to William F. Caton (Aug. 12, 1994) Attachment at 3-4, SBMS Comments (June 29, 1993) at 11-12; Location Services Comments (June 29, 1993) at 3-4. See also "Capacity and Interference Resistance of Spread-Spectrum Automatic Vehicle Monitoring Systems in the 902-928 MHz ISM Band, Final Report," by Raymond Zhen, Jay Tsai, Rick Cameron, Kara Beisgen, Brian D. Woerner and Jeff H. Reed of the Mobile and Portable Radio Research Group, Bradley Dept. of Electrical Engineering, Virginia Tech (Oct. 14, 1994), at 35 ("Virginia Tech Final Report").

[26/] R&O at 34.

[27/] SBMS Petition at 23.

[28/] Virginia Tech Final Report at Section 3.

employing spectrally efficient technologies with lower sunk costs and reward consumers with lower costs."[29/] Without addressing SBMS' proposal or justifying the band plan ultimately adopted, the Commission implemented a plan that would encourage warehousing by requiring bidders to bid on blocks larger than they might really need and hurt competition by artificially limiting the number of LMS providers that can be licensed.

In opposing a small spectrum block plan, Pinpoint states that it will be very difficult, if not impossible, for small companies to aggregate the licenses necessary.[30/] Pinpoint refers to SBMS as a "deep pocket" against whom small companies will have to compete.[31/] Pinpoint's suggestion that a small spectrum block plan will have a chilling effect upon participation by smaller, less well-capitalized companies is sheer speculation.

One of the purposes behind implementation of auctions was to award "licenses to those who value them most highly, while maintaining safeguards against anti-competitive concentration."[32/] Whomever it is that values the licenses most will bid the most, and ultimately, win the license. The FCC has stated that where aggregation of licenses is necessary, it will take that into account when it designs the auction in order for bidders to have a realistic opportunity to win more than one license.[33/] Pinpoint's concern about small companies being unable to win more than one license is best addressed through auction rules in a rulemaking proceeding, not in adopting a spectrum allocation. In addition, Pinpoint's argument that small companies will not be able to win licenses at auction is without merit. There is absolutely no evidence in the record

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[29/] SBMS Petition at 5-7.

[30/] Pinpoint at 5-6.

[31/] Pinpoint at 6.

[32/] Implementation of Section 309(j) of the Communications Act - Competitive Bidding, Second Report and Order, 9 FCC Rcd 2348, 2349 (1994) ("2d R&O").

[33/] 2d R&O at 2360-2361.

that one 6 MHz block would cost less at auction than three 2 MHz blocks. In fact, because an auction with smaller spectrum blocks would likely attract parties who could not otherwise afford to bid on larger blocks, such an auction would tend to increase participation by smaller companies.

V. Elevation of Part 15 to Co-Equal Status

In its Petition, SBMS demonstrated that the FCC impermissibly amended Part 15 by implementing a requirement that LMS demonstrate through field tests that it not cause interference to Part 15 devices and through the irrebuttable presumption that Part 15 devices, operating within a certain threshold, are legally determined not to be causing interference.[34/] Both of these rules will serve to elevate Part 15 to co-equal status from its current secondary status.[35/] SBMS opposed the imposition of post-grant testing and the establishment of an irrebuttable presumption as unlawful in the context of this Part 90 rulemaking, and as being inconsistent with the principles underlying Part 15. The FCC cannot change the status of Part 15 in a rulemaking that specifically excluded revisions to the status of Part 15.[36/] Similarly, CellNet's suggestion that Part 15 devices be reclassified as co-primary in order to eliminate the height/power restrictions[37/] is directly contrary to the Part 15 rules and the FCC's own statements in the R&O, where it affirmed the secondary status of Part 15 devices.[38/] Designation of Part 15 as co-primary would cause the 902-928 MHz band to become useless for LMS because of the high level of interference that would result.

[34/] See SBMS Petition at 7-9. See also Mobilevision at 10-13.

[35/] See 47 C.F.R. §15.5.

[36/] See SBMS Petition at 7-9, MobileVision at 10-13, Pinpoint at 22-23..

[37/] CellNet at 3-4.

[38/] R&O at 20, SBMS Petition at 7.

A. Testing Requirements

Not only is post-grant testing vis-a-vis Part 15 interests who hold secondary status unlawful, but imposing such a requirement without specifying standards for such testing renders the testing meaningless. In addition to SBMS' stated concern, Metricom, the Gas Coalition, Pinpoint, CellNet and the Part 15 Coalition all requested that the FCC specify field test guidelines.[39/] Without such testing guidelines, there would inevitably be many LMS/Part 15 disputes and the value of the spectrum available for auction would be degraded. Potential licensees who do not know what is required of them to retain and operate a license cannot accurately determine the value of the underlying spectrum.

UTC requests that Part 15 users and manufacturers be permitted to participate in the design of tests, that no "for profit" service be initiated until testing is completed and that no changes to the system be permitted after testing is concluded.[40/] Placing LMS in such a straight jacket at the behest of users who ostensibly hold a "secondary" status stands logic on its head. Without the right of modification, an LMS licensee will be unable to provide the best possible service to its customers, unable to refine system operation, unable to resolve interference disputes and unable to employ technological advances in its system. Such a policy would be inimical to the development of LMS as a viable industry.

CellNet believes that testing should be required of grandfathered licensees as well as exclusive MTA licenses.[41/] The R&O[42/] provides for grandfathering to avoid hardship on

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[39/] SBMS Petition at 8, Metricom at 8-10, Gas Coalition at 18-20, Pinpoint at 22-24, CellNet at 5-9, Part 15 Coalition at 15.

[40/] UTC at 12.

[41/] CellNet at 6.

[42/] R&O at 34.

existing, operating licensees and recognizes some equitable entitlement even among unbuilt licensees.[43/] Though SBMS has taken issue with the grandfathering rights of unbuilt licenses, requiring testing this late in the game, especially of already operating systems, who may have to discontinue providing service to the public in order to comply with the testing provisions, is unfair and contrary to the public interest.

The Gas Coalition requests that testing plans be a required component of a multilateration license application, include provision for Part 15 and others to participate as a matter of right, be subject to public comment and evaluation by the Office of Engineering and Technology and that testing results be open for public comment.[44/] Such requirements will only delay LMS service to the public indefinitely. The FCC adopted permanent rules to provide for "efficient service"[45/] and adopted competitive bidding requirements to "speed the development and deployment of new services to the public with minimal administrative and judicial delays."[46/] Such unnecessary delay as the Gas Coalition suggests is inimical to the Commission's stated goals and contrary to the public interest.

The Gas Coalition also requests that LMS be required to comply with further technical limits in order to provide greater protection to Part 15 devices.[47/] It suggests 10 watts ERP for mobile and base station transmitters with an exception of 30 watts ERP for narrow beam width, directional, non-multilateration transmitter sites.[48/] Adopting such additional limits would only

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[43/] R&O at 34.

[44/] Gas Coalition at 18-20.

[45/] R&O at 2.

[46/] R&O at 32.

[47/] Gas Coalition at 5-9.

[48/] Gas Coalition at 5-9.

further the Commission's impermissible elevation of Part 15 devices from their secondary status to essentially co-equal status with LMS.

B. Irrebuttable Presumption

The irrebuttable presumption of noninterference by Part 15 devices operating within certain thresholds is also contrary to the Part 15 requirements as confirmed by the R&O.[49/] SBMS agrees with the comments of both Pinpoint[50/] and Uniplex[51/] in this regard and SBMS demonstrated the inappropriateness of such a presumption in its Petition.[52/] Permitting otherwise would be contrary to the secondary status of Part 15.[53/]

SBMS and MobileVision have suggested that the presumption be made rebuttable.[54/] Aside from being contrary to the restrictions of Part 15, an irrebuttable presumption will prohibit LMS from demonstrating the existence of actual interference which could degrade LMS signals and devalue a license. The presumption of non-interference would have to be rebutted by the LMS licensee's demonstration through actual evidence that interference exists. Such a rebuttable presumption would protect Part 15 devices and users from frivolous claims of interference by LMS licensees while maintaining their secondary status.

Metricom, the Gas Coalition, Learning and the Part 15 Coalition all request clarification that the irrebuttable presumption applies to grandfathered as well as exclusive MTA LMS

[49/] SBMS Petition at 20.

[50/] Pinpoint at 20-22.

[51/] Uniplex at 7-8.

[52/] SBMS Petition at 9.

[53/] See 47 C.F.R. §15.5.

[54/] SBMS Petition at 9, MobileVision at 10-13.

systems.[55/] The R&O must be construed to mean that the presumption will apply only after April 1, 1998, at which point all grandfathered systems are required to comply with the new rules.[56/] The Gas Coalition requests that this rule apply to grandfathered systems by April 1, 1996.[57/] The FCC gave grandfathered systems additional time to modify because they have an "existing, operating infrastructure that will require additional time for conversion..."[58/] Under Section 90.363(c), even licensees who do not elect to conform to the new band plan "will be permitted to continue operations under the provisions of former Section 90.239 until April 1, 1998 or the end of their original license term, whichever occurs first..."[59/] Under these circumstances, it is clear that the FCC intended April 1, 1998 as the date upon which all operating licensees who acquired licenses under the interim rules were to transition to the new LMS requirements. Regardless of the FCC's intent as to the transition date, however, at such time as the irrebuttable presumption became applicable, as applied to either grandfathered or new LMS licenses, it would be contrary to the secondary status of Part 15.

While Uniplex wants establishment of an arbitration board to deal with Part 15/LMS disputes,[60/] maintaining the secondary status of Part 15 would negate any need for arbitration. If Part 15 was not secondary in the band, an arbitration board with proper procedures might be a good method for resolving disputes. But Part 15 is secondary and its secondary status negates any need for formal interference resolution procedures.

[55/] Metricom at 15-16, Gas Coalition at 9-12, Learning at 14-15, Part 15 Coalition at 12.

[56/] 47 C.F.R. §90.363(c).

[57/] Gas Coalition at 9-10.

[58/] R&0 at 35.

[59/] 47 C.F.R. §90.363(c).

[60/] Uniplex at 8.

AirTouch and MobileVision request clarification as to whether long-range video links are included in the category of protected or unprotected Part 15 devices.[61] The R&O clearly stated that long-range video links were not entitled to the presumption of interference free operation,[62] but Section 90.361 did not exclude these links. SBMS agrees with AirTouch and MobileVision that Section 90.361 should be clarified to specifically exclude long-range video links as the commenters conclusively demonstrated that these particular Part 15 devices were a major source of interference to LMS.[63]

Metricom wants the FCC to clarify that it meant to include all mobile and portable antennas within the irrebuttable presumption.[64] Section 90.361(c) already indicates the contrary, that outdoor antennas, which logically would appear to include most mobile and portable antennas, only have the benefit of the irrebuttable presumption if they are within the limits of the rules. Metricom's interpretation of the rules is at odds with Part 15's secondary status. Metricom has presented no justification for including all mobile and portable antennas within the irrebuttable presumption, and because such antennas could clearly cause interference to LMS, such limitations are necessary.

Metricom, UTC, Learning and the Part 15 Coalition believe that the height/power limitations of Section 90.361(c)(2) are inadequate for Part 15 operation and should be eliminated, or at least, relaxed to allow for greater height and power.[65] Part 15 operations are required to

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[61] AirTouch at 8, MobileVision at 12..

[62] R&O at 22.

[63] R&O at 21-22.

[64] Metricom at 12-13.

[65] Metricom at 1-6, UTC at 13-17, Learning at 2-7, Part 15 Coalition at 13-14.

be secondary.[66] Therefore, the height/power limitations contained in the rules unlawfully provide a safe harbor for Part 15 interests who should, in fact, be required to accept all interference and not cause any interference.[67] The height/power restrictions as they currently exist will cause substantial interference to LMS, and any lessening of the restrictions would in effect, elevate Part 15 above LMS by subjecting LMS to even greater interference and degradation of its signal. However, if Part 15 is going to be given the benefit of the irrebuttable presumption, the height/power limitations are an absolute minimum standard necessary to protect LMS from Part 15 interference.

Learning states that because LMS can be moved to other spectrum, Part 15 devices should not be restricted as to height/power.[68] The fundamental purpose behind this rulemaking was to transform an interim allocation for AVM into a permanent one, not to relocate LMS.[69] In fact, the FCC has "always regarded the band [902-928 MHz] as a permanent home for AVM... there exists no other low-cost, consumer-oriented spectrum where AVM service providers operate their systems without facing concerns similar to those present in this band. The 902-928 MHz band is ideally suited for location services due to the propagation characteristics of the band..."[70] There is no suitable alternate spectrum for LMS, while Part 15 continues to enjoy new allocations in other bands.[71] In addition, Part 15 devices can change frequency to avoid interference, but

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[66] 47 C.F.R. §15.5.

[67] 47 C.F.R. §15.5.

[68] Learning at 5-6.

[69] NPRM at 2503.

[70] R&O at 11-12.

[71] See, e.g., Amendment of Parts 15 and 90 of the Commission's Rules to Provide Additional Frequencies for Cordless Telephones, ET Docket No. 93-235, FCC 95-148 (rel. April 10, 1995) (tripling the amount of spectrum and number of frequencies available for cordless telephones in the 44-49 MHz band).

LMS would need to reapply for a license, redesign and rebuild its system to move as Learning suggests. Existing LMS companies, including SBMS, have invested heavily in building their systems based on the interim rules and the 902-928 MHz allocation. A band change at this late date would be prohibitively expensive for multilateration LMS licensees.

Learning believes that educational uses should be exempted from the height/power limits.[72/] While educational uses may be a "public good," so too are LMS services. All Part 15 devices are restricted from causing interference under the Part 15 rules, including those used for educational purposes. Educational users of Part 15 devices cannot claim to be more important than emergency services users. Any Part 15 devices exempted from height/power restrictions will increase interference within the band. When any Part 15 device, educational or not, is certified or type-accepted, the manufacturer and the user are aware of its secondary status. Learning has always been aware of the fact that Part 15 devices have secondary status, and cannot now request an exemption from the Part 15 rules through this Part 90 rulemaking.

VI. Need For Greater Clarity On Permissible Use And Interconnection To The PSTN

As the FCC decided, LMS cannot be used for "general messaging purposes."[73/] While non-multilateration systems may only be used for vehicle LMS, multilateration systems may be used for non-vehicular LMS if their "primary operations involved the provision of vehicle location services."[74/] All message services must be related to location and monitoring[75/] and this includes transmission of status and instructional messages related to LMS.[76/] Interconnection is

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[72/] Learning at 7-11.

[73/] R&O at 15.

[74/] R&O at 14.

[75/] R&O at 15.

[76/] R&O at 15.

limited to "store and forward" and emergency real-time interconnection to or from Part 90 Public Safety and Special Emergency Radio eligible entities.[77/]

While the FCC has attempted to set guidelines to restrict the permissible use of LMS, many of the commenting parties have noted the problems that may arise and have suggested additional restrictions. While SBMS understands the commenters' concerns about controlling the content of messages,[78/] it believes that a complete ban on interconnection and voice communications is not the appropriate way to limit interference in the band.[79/] Rather, the FCC must underscore that the primary purpose of LMS is vehicle location and monitoring. The use of interconnected voice communications is restricted to certain very limited situations, and these situations are the exception, not the rule. The FCC must make clear that it will not tolerate attempts to convert LMS into a PCS-like service, and that it will deal forcefully with those who do not abide by this restriction.

MobileVision suggests that LMS not be restricted as to permissible use or interconnection.[80/] MobileVision believes that the market should define the permissible uses of LMS and it is concerned that restrictions such as those included in the new LMS rules will effectively limit the services that LMS can provide.[81/] This is, however, the reason for limiting permissible use. LMS was established for a specific purpose, to provide location and monitoring services, not to provide every service for which the market demonstrates a need. If the FCC has

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[77/] R&O at 16.

[78/] Gas Coalition at 15-17, Learning at 11-13, Metricom at 13-15, CellNet at 12-13, UTC at 9-11. These commenters demonstrated their beliefs that the neither the Commission nor the LMS provider will be able to control the content of the message sent by the LMS user.

[79/] Cf., Gas Coalition at 15-17, Learning at 11-13, Metricom at 13-15, CellNet at 12-13, UTC at 9-11.

[80/] MobileVision at 4-6.

[81/] MobileVision at 3.

authority to establish a permanent LMS service, it must have the authority to define the parameters of that service. Permitting the market to define the parameters of LMS would obviate any need for the FCC or its rules.

As SBMS suggested in its Petition,[82] the FCC must narrowly define its definition of "store and forward" to avoid evisceration of the real-time voice interconnection ban. SBMS suggests that the "store and forward" be defined in terms of a "mailbox" whereby the sender deposits a message in a mailbox and the receiver independently retrieves the message from the mailbox. Such a definition would ensure that LMS users could not avoid the restrictions which define the essence of LMS by exploiting a technical loophole.

VII. Designating Major Trading Areas ("MTAs") As The Relevant Geographic Market For Licensing Purposes Is Wasteful of Spectrum

In its Petition, SBMS demonstrated the flaw in implementing an LMS licensing scheme based on MTAs.[83] While agreeing with the "view that the geographic scope of LMS systems logically correlates to areas in which there are centers of consumption of durable goods," the R&O[84] concludes that these "centers" are best represented by MTAs. MTAs, however, actually are derived by aggregating these "centers," which often are geographically dispersed from one another. The parties in this proceeding and the FCC (at least initially),[85] advocated geographic areas smaller than MTAs.[86]

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[82] SBMS Petition at 9-11.

[83] SBMS Petition at 11-13. Rand McNally is opposed to the R&O only because they have not licensed use of MTA/BTA listings for LMS. See Rand McNally Comments.

[84] R&O at 30.

[85] Public Notice, DA 94-129, PR Docket No. 93-61 (Feb. 15, 1994) (suggesting BTAs as the geographic area).

[86] R&O at 29-30. Teletrac and Symbol Technologies suggested BTAs. PacTel Teletrac Comments (March 15, 1994), at 8; Symbol Technologies, Inc. Comments in Response to the Public Notice (Feb. 9, 1994), at 7-8, n.9. Pinpoint and MobileVision suggested MSAs/RSAs.

The FCC justified its change of mind with no reference to record evidence, nor does the R&O refute the logic of those parties who advocated smaller market areas.[87] Rather, the R&O selected the MTA option because "LMS has the potential to serve larger areas"[88] even though these "centers" are better defined as BTAs. In addition, LMS build-out requirements are BTA based, not MTA based.[89]

The specter of undefined field tests as a condition precedent to final licensing,[90] and the minimal build-out requirements of only a "substantial portion of at least one BTA" per MTA within twelve months after initial authorization[91] may deter availability of service while encouraging frequency stockpiling. An LMS operator could build-out a system in a rural BTA where "minimized interference" is clearly demonstrated,[92] thereby fulfilling its construction requirement. It could then retain the license in perpetuity, because the R&O imposes no additional construction requirements. As a result, an operator would serve a low demand rural area while substantially neglecting urban BTAs without market or regulatory risk.

Under the interim framework, at least one incumbent multilateration LMS licensee has built only skeletal systems while LMS licensees generally have built very few mature systems

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Pinpoint Comments (March 15, 1994), at 32; MobileVision Comments (March 15, 1994), at 27-28. See also, e.g., SBMS Letter to William F. Caton (Aug. 26, 1994), Attachment at 7 ("MTAs are too large for licensing areas").

[87] See Continental Air Lines v. DOT, 843 F.2d 1444, 1453 (D.C. Cir. 1988) (in determining whether an agency has engaged in reasoned decision making, a reviewing court examines whether the agency: considered meaningful alternatives; provided a reasonable explication of the choice made; and demonstrated a reasonable connection between the facts found and the option selected.)

[88] R&O at 30.

[89] R&O at 33.

[90] R&O at 43.

[91] R&O at 33.

[92] R&O at 43.

despite hundreds of outstanding licenses with extended construction schedules.[93/] Accordingly, warehousing should be a more pressing policy concern. Nevertheless, use of MTAs for exclusive licensing, combined with timid construction requirements and the burden of conditional testing will only serve to encourage warehousing,[94/] depriving the public of needed service.

VIII. Rights of Grandfathered Licensees and Pending Applicants

SBMS agrees with Pinpoint, MobileVision and Uniplex that grandfathered systems should have more flexibility to modify, relocate and add transmitter sites.

Pinpoint believes that the current grandfathering rules do not foster a competitive marketplace.[95/] It believes that grandfathered licensees should be able to build out their systems within the BTAs in which they are licensees, even where they were not specifically licensed for such expanded areas by February 3, 1995.[96/] If licensed anywhere within the BTA, Pinpoint wants to be able to obtain and build new licenses within the BTA. Power limits will mean that Pinpoint (and other grandfathered licensees) will have to build more base stations to cover the same area as it would have covered under the interim rules. According to Pinpoint, grandfathered licenses should be limited to 25 BTAs to discourage speculation.[97/] Pinpoint wants to be able to modify its systems in the future due to circumstances beyond its control.[98/]

[93/] See, e.g., SBMS Letter to Ralph Haller (Aug. 12, 1994), at 8.

[94/] See, e.g., SBMS Ex Parte Comments (Nov. 9, 1994), at 12-13.

[95/] Pinpoint at 13.

[96/] Pinpoint at 13-15.

[97/] Pinpoint at 15-16.

[98/] Pinpoint at 16-17.

Like Pinpoint, MobileVision believes that the grandfathering rules should be amended to allow more flexibility for movement and addition of sites.[99/] Otherwise, systems will not have enough flexibility to operate. MobileVision states that coverage areas should be defined in terms of existing transmit licenses (MobileVision defines coverage area as "the area within which a mobile unit can properly decode and respond to forward link transmissions, and within which receive sites are strategically placed to decode the mobile's spread spectrum 'burst'").[100/] If the Commission ultimately opts to grandfather unbuilt licenses notwithstanding SBMS' objections, then as a matter of fairness, pending applications as of February 3, 1995 which should have been granted by February 3, 1995 under the FCC's normal processing schedule should be accorded similar treatment[101/] and all such grandfathered licensees and applicants should be able to obtain and build other licenses within the area encompassed by their pertinent licenses and applications.

Rule Sections 90.363(a) and (b) restrict modification of grandfathered licenses to comply with the band plan and to "specify an alternate site, so long as the alternate site is 2 kilometers or less from the site specified in the original license."[102/] In so restricting relocations, the FCC cited to Implementation of Sections 3(n) and 332 of the Communications Act - Regulatory Treatment of Mobile Services, Third Report and Order[103/] which concluded that Part 90 CMRS applications proposing relocations of more than 2 kilometers would be considered initial applications, and not modification applications, and would, therefore, be subject to 30 day notice

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[99/] MobileVision at 7-9.

[100/] MobileVision at 8-9.

[101/] See Implementation of Sections 3(n) and 332 of the Communications Act - Regulatory Treatment of Mobile Services, Second Report and Order, Second Further Notice of Proposed Rulemaking, GN Docket No. 93-252, FCC 95-159 (rel. April 17, 1995).

[102/] 47 C.F.R. §90.363(a).

[103/] 9 FCC Rcd 7988 (1994) ("3d Report and Order").

and cut-off and competitive bidding procedures.[104/] The FCC, however, has never found LMS to be CMRS. Moreover, in deciding to grandfather AVM licenses, as it has done here, the FCC has determined that such grandfathered licenses will not be auctioned. Accordingly, such licenses (or grandfathered applications) should not be constrained by CMRS relocation limitations applicable in an auction regime.

Under interim Rule Section 90.239(c)(ii), which has been removed from the permanent rules, but which remains controlling for grandfathered licensees, "the minimum separation between a proposed AVM station and the nearest co-channel base station of another licensee operating a voice system is 120 km (75 miles) for a single frequency mode of operation..."[105/] Under the interim rules, SBMS carefully selected 2 MHz which was not being utilized by MobileVision under its 8 MHz license in Chicago in order to avoid interference. While the FCC has ruled that LMS is not to be used primarily for voice or general messaging purposes,[106/] SBMS will, in keeping with the interim rule, continue to cooperate with any incumbent licensee under the new band plan to avoid co-channel interference. However, in order to provide service as originally intended in SBMS' applications and as indicated in SBMS' answer to item 13 on its original FCC Forms 574 (where it proposed a 75 mile radius for its area of operation), SBMS would need to be able to relocate and add transmitters permissively within a 75 mile radius from the center point of the service area for which it originally applied.

Permitting SBMS to so modify its operations in this fashion would not expand the coverage area from that which it originally requested in its applications under the interim rules. SBMS requests that if the FCC opts to grandfather unbuilt licenses, SBMS should authorized to

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[104/] 3d Report and Order at ¶ 356.

[105/] 47 C.F.R. §90.239(c)(ii) (deleted).

[106/] R&O at 15.

relocate or add sites permissively within the 75 mile radius specified in each pending application to be able to provide a quality LMS service to the public. Deletion of the 2 kilometer limitation for grandfathered licensees and applicants accords with the notion of protecting the business plans of those who invested early in this service, but who were detained by the uncertainty of the interim rules or other regulatory delays beyond their control.

IX. Unduly Burdensome Emission Mask Requirements

As SBMS and the other multilateration parties demonstrated in their respective petitions, compliance with the emission mask presently specified is impossible.[107/] In addition, TI asks that the emission mask requirements be clarified[108/] and Amtech asks for a more relaxed emission mask requirement.[109/] The requirements as written could not be satisfied by SBMS or any of the other multilateration providers, and should be revised in accordance with the formula suggested by the multilateration parties.

X. Non-Multilateration Licensing Issues

Amtech believes that non-multilateration licensees should have more flexibility to exceed either height or power limits.[110/] However, doing so would increase interference for all other users of the band, especially in the shared D-band. This, in turn, would further degrade the value of the spectrum. Thus, such a suggestion is clearly not in the public interest.

The Part 15 Coalition wants the definition of non-multilateration systems to be more precise by either reducing the power limitation to one watt or requiring all such systems be

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[107/] SBMS at 21-23, Pinpoint at 17-20, MobileVision at 9-10, Uniplex at 6-7, AirTouch at 2-8.

[108/] TI at 16-17.

[109/] Amtech at 14-15.

[110/] Amtech at 9-13.